

Abstract

The illustrative embodiment of the invention is a surface waveguide having low modal birefringence. The surface waveguide has a composite guiding region that is sandwiched by a lower cladding layer and an upper cladding layer, wherein the cladding layers serve to confine propagating light to the composite guiding region. In accordance with the illustrative embodiment, the composite guiding region is structured so that it exhibits a balanced stress configuration, wherein the stress in the direction that aligns with the T_E polarization mode is substantially equal to the stress in the direction that aligns with the T_M polarization mode. The balanced stress configuration results in a surface waveguide that exhibits very low modal birefringence.